

# NMCP COVID-19 Literature Report #48: Friday, 13 November 2020

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**Purpose:** These weekly reports, published on Fridays, are curated collections of current research, evidence reviews, special reports, grey literature, and news regarding the COVID-19 pandemic that may be of interest to medical providers and leadership. All reports are available online at <https://nmcp.libguides.com/covidreport>. Access is private; you will need to use the direct link or bookmark the URL, along with the case-sensitive password "NMCPfinest".

**Disclaimer:** I am not a medical professional. This document is current as of the date noted above. While I make every effort to find and summarize available data, things are changing rapidly, with new research and potentially conflicting literature published daily. Please feel free to reach out with questions, suggestions for future topics, or any other feedback.

## Statistics

*Global today:* 52,918,582 confirmed cases and 1,295,976 deaths in 191 countries/regions

*1 week ago:* 48,850,917 confirmed cases and 1,235,985 deaths in 190 countries/regions

*2 weeks ago:* 45,170,690 confirmed cases and 1,183,116 deaths in 190 countries/regions

### United States\*

top 5 states by cases (Virginia is ranked 19th)

	TOTAL US	TX	CA	FL	NY	IL
Cases	10,569,558	1,024,073	1,006,195	863,619	545,762	536,542
Tests	158,066,575	9,033,217	20,642,072	6,493,713	16,231,193	8,765,100
Deaths	242,536	19,474	18,141	17,372	33,975	10,846

\*see [census.gov](https://census.gov) for current US Population data; NA: not all data available

[JHU CSSE](https://jhu-csse.org) as of 1000 EDT 13 November 2020

<i>Virginia</i>	Total	Chesapeake	Hampton	Newport News	Norfolk	Portsmouth	Suffolk	Virginia Beach
Cases	199,262	5,453	2,344	3,474	5,829	2,967	2,480	9,002
Hospitalized	13,408	501	104	124	423	338	147	473
Deaths	3,785	80	34	52	86	70	79	111

[VA DOH](https://va.doh.gov) as of 1000 EDT 13 November 2020

## Updates From the CDC

### [Celebrating Thanksgiving](#) (updated 10 November 2020)

Basically: wear a mask, stay 6 feet away from people who don't live with you, and wash your hands.

Maybe try a zoom Thanksgiving (and Christmas).

### [Scientific Brief: Community Use of Cloth Masks to Control the Spread of SARS-CoV-2](#) (updated 10 November 2020)

"Experimental and epidemiological data support community masking to reduce the spread of SARS-CoV-2. The prevention benefit of masking is derived from the combination of source control and personal protection for the mask wearer. The relationship between source control and personal protection is likely complementary and possibly synergistic, so that individual benefit increases with increasing community mask use. Further research is needed to expand the evidence base for the protective effect of cloth masks and in particular to identify the combinations of materials that maximize both their blocking and filtering effectiveness, as well as fit, comfort, durability, and consumer appeal. Adopting universal masking policies can help avert future lockdowns, especially if combined with other non-pharmaceutical interventions such as social distancing, hand hygiene, and adequate ventilation."

### [Interim U.S. Guidance for Risk Assessment and Work Restrictions for Healthcare Personnel with Potential Exposure to COVID-19](#) (updated 06 November 2020)

"Updates were made to clarify that the time period of 15 minutes or more, which is used to define 'prolonged' close contact, refers to the cumulative amount of time a person is exposed on one or more individuals with SARS-CoV-2 infection during a 24-hour period."

## Special Reports

### CRS: [Vaccine Safety in the United States: Overview and Considerations for COVID-19 Vaccines \[pdf\]](#) (04 November 2020)

This 43-page report covers the background and context for vaccine safety in the US. The report includes discussion of pre- and post-market safety, clinical recommendations, federal research, distribution, and special safety considerations for COVID-19 vaccines.

## Selected Literature: Peer-Reviewed Journals

*Date given is the date published or posted online; often these papers are ahead of print.*

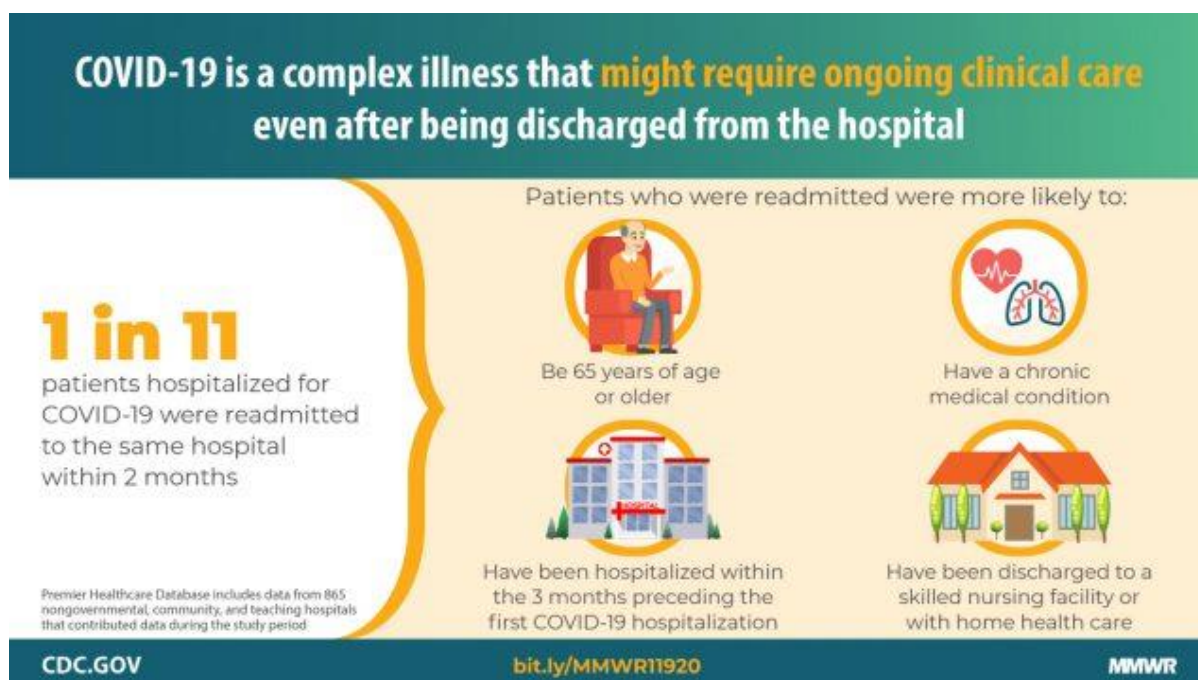
13 November 2020

MMWR: [Characteristics of Hospitalized COVID-19 Patients Discharged and Experiencing Same-Hospital Readmission — United States, March–August 2020](#)

"Evidence suggests that potential health complications after COVID-19 illness might require ongoing clinical care.

After discharge from an initial COVID-19 hospitalization, 9% of patients were readmitted to the same hospital within 2 months of discharge. Multiple readmissions occurred in 1.6% of patients. Risk factors for readmission included age  $\geq 65$  years, presence of certain chronic conditions, hospitalization within the 3 months preceding the first COVID-19 hospitalization, and discharge to a skilled nursing facility or with home health care.

Understanding frequency of, and potential reasons for, readmission after a COVID-19 hospitalization can inform clinical practice, discharge disposition decisions, and public health priorities, such as health care resource planning."



MMWR: [Declines in SARS-CoV-2 Transmission, Hospitalizations, and Mortality After Implementation of Mitigation Measures— Delaware, March–June 2020](#)

"COVID-19 mitigation measures (e.g., stay-at-home orders and public mask mandate) and fundamental public health interventions (e.g., case investigations and contact tracing with prompt isolation or quarantine) are primary approaches to preventing and controlling SARS-CoV-2 community transmission.

State-mandated stay-at-home orders and public mask mandates coupled with case investigations with contact tracing contributed to an 82% reduction in COVID-19 incidence, 88% reduction in hospitalizations, and 100% reduction in mortality in Delaware during late April–June.

The combination of state-mandated community mitigation efforts and routine public health interventions can reduce the occurrence of new COVID-19 cases, hospitalizations, and deaths."

*12 November 2020*

EClinicalMedicine: [Ethnicity and clinical outcomes in COVID-19: A systematic review and meta-analysis](#)

"In this systematic review and meta-analysis, we searched multiple databases (within MEDLINE, EMBASE, PROSPERO and the Cochrane library) and preprint data on MedRxiv from 1st December 2019 to 31st August 2020. 18,728,893 patients from 50 studies were included in the meta-analyses; by 31st August, 26 were peer-reviewed. In pooled adjusted analyses, Black and Asian individuals had an increased risk of infection with Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2) compared to White individuals, consistent in both the main analysis and sensitivity analysis examining only peer-reviewed studies. Asian patients may also have a higher risk of ITU admission (although all studies examining ITU admission in Asians were not yet peer-reviewed); and death (pooled adjusted risk ratios approached significance).

This is the first meta-analysis to report on the effect of ethnicity on clinical outcomes in patients with COVID-19. We found increased risk of infection amongst those of Black and Asian ethnicities compared to White individuals. Asian individuals may also be at higher risk of ITU admission and death, even when confounders such as age, sex and comorbidities are adjusted for. Future studies must explore the reasons for this suggested association, adjusting for the risk of infection. Our findings are of critical public health importance and should inform policy on minimising SARS-CoV-2 exposure in ethnic minority groups."

JAMA: [Fluvoxamine vs Placebo and Clinical Deterioration in Outpatients With Symptomatic COVID-19: A Randomized Clinical Trial](#)

"Question: Does fluvoxamine, a selective serotonin reuptake inhibitor and  $\sigma$ -1 receptor agonist, prevent clinical deterioration in outpatients with acute coronavirus disease 2019 (COVID-19)?

Findings: In this randomized trial that included 152 adult outpatients with confirmed COVID-19 and symptom onset within 7 days, clinical deterioration occurred in 0 patients treated with fluvoxamine vs 6 (8.3%) patients treated with placebo over 15 days, a difference that was statistically significant.

Meaning: In this preliminary study, adult outpatients with symptomatic COVID-19 treated with fluvoxamine, compared with placebo, had a lower likelihood of clinical deterioration over 15 days; however, determination of clinical efficacy would require larger randomized trials with more definitive outcome measures."

JAMA Intern Med: [Assessment of SARS-CoV-2 RNA Test Results Among Patients Who Recovered From COVID-19 With Prior Negative Results](#)

"Similar to that reported elsewhere, 18% of patients with COVID-19 in our institution became RT-PCR positive for SARS-CoV-2 RNA after clinical recovery and previous negative results. As positivity in the patients was suggestive, but not necessarily a reflection, of viral carriage, we used replicative SARS-CoV-2 RNA detection as a proxy for virus replication in culture.

Only 1 of 32 patients retesting positive had replicating virus in the NOS sample, suggesting either recurrent infection or reinfection, which is impossible to separate because no whole-genome sequencing and phylogenetic analyses were performed....

This study highlights that many patients who recovered from COVID-19 may be still positive (albeit at lower levels) for SARS-CoV-2 RNA, but only a minority of the patients may carry a replicating SARS-CoV-2 in the respiratory tract. Further studies are needed to verify whether such patients can transmit the virus."

Lancet Respir Med: [Safety and efficacy of inhaled nebulised interferon beta-1a \(SNG001\) for treatment of SARS-CoV-2 infection: a randomised, double-blind, placebo-controlled, phase 2 trial](#)

"In this randomised, double-blind, placebo-controlled, multicentre pilot trial in 98 patients, SNG001 increased the odds of improvement in clinical status (based on the 9-point WHO Ordinal Scale for Clinical Improvement [OSCI]) and enhanced the likelihood of recovery to a score of 1 on the OSCI (no limitation of activities). SNG001 was also well tolerated compared with placebo.

The present study serves as a proof of concept that inhaled interferon beta-1a could attenuate the clinical consequences of COVID-19. Larger studies in patients with COVID-19 are needed to further investigate the therapeutic potential of SNG001 in this setting."

NEJM: [An mRNA Vaccine against SARS-CoV-2 — Preliminary Report](#)

"We conducted a phase 1, dose-escalation, open-label trial including 45 healthy adults, 18 to 55 years of age, who received two vaccinations, 28 days apart, with mRNA-1273 in a dose of 25 µg, 100 µg, or 250 µg. There were 15 participants in each dose group.

After the first vaccination, antibody responses were higher with higher dose (day 29 enzyme-linked immunosorbent assay anti-S-2P antibody geometric mean titer [GMT], 40,227 in the 25-µg group, 109,209 in the 100-µg group, and 213,526 in the 250-µg group). After the second vaccination, the titers increased (day 57 GMT, 299,751, 782,719, and 1,192,154, respectively). After the second vaccination, serum-neutralizing activity was detected by two methods in all participants evaluated, with values generally similar to those in the upper half of the distribution of a panel of control convalescent serum specimens. Solicited adverse events that occurred in more than half the participants included fatigue, chills, headache, myalgia, and pain at the injection site. Systemic adverse events were more common after the second vaccination, particularly with the highest dose, and three participants (21%) in the 250-µg dose group reported one or more severe adverse events.

The mRNA-1273 vaccine induced anti-SARS-CoV-2 immune responses in all participants, and no trial-limiting safety concerns were identified. These findings support further development of this vaccine."

Open Forum Infect Dis: [Staphylococcus aureus bacteremia in patients infected with COVID-19: A case series](#)

"Previous viral pandemics have shown that secondary bacterial infections result in higher morbidity and mortality, with *Staphylococcus aureus* as the primary causative pathogen. The impact of secondary *S. aureus* bacteremia on mortality in patients infected with SARS-CoV-2 remains unknown.

This was a retrospective, observational case series of patients with COVID-19 disease who developed secondary *S. aureus* bacteremia across two New York City hospitals. The primary endpoint was to describe 14-day and 30-day hospital mortality rates of patients infected with COVID-19 and *S. aureus* bacteremia. Secondary endpoints included predictors of 14-day and 30-day hospital mortality in patients infected with COVID-19 and *S. aureus* bacteremia.

A total of 42 hospitalized patients for COVID-19 with secondary *S. aureus* bacteremia were identified. Of these patients, 23 (54.8 %) and 28 (66.7%) died at 14 days and 30 days, respectively, from their first positive blood culture. Multivariate analysis identified hospital-

onset bacteremia ( $\geq 4$  days from date of admission) and age as significant predictors of 14-day hospital mortality, and Pitt bacteremia score as a significant predictor of 30-day hospital mortality (odds ratio [OR] 11.9 [95% confidence interval [CI] 2.03-114.7],  $p=0.01$ ; (OR 1.10 [95% CI 1.03-1.20],  $p=0.02$ ); and (OR 1.56 [95% CI 1.19-2.18],  $p=0.003$ ), respectively.

Bacteremia with *S. aureus* is associated with high mortality rates in patients hospitalized with COVID-19 infection. Further investigation is warranted to understand the impact of COVID-19 and secondary *S. aureus* bacteremia."

11 November 2020

Ann Intern Med: [Sixty-Day Outcomes Among Patients Hospitalized With COVID-19](#)

"In this multihospital cohort of patients hospitalized with COVID-19 in Michigan, nearly 1 in 3 patients died during hospitalization or within 60 days of discharge. For most patients who survived, ongoing morbidity, including the inability to return to normal activities, physical and emotional symptoms, and financial loss, was common. These data confirm that the toll of COVID-19 extends well beyond hospitalization, a finding consistent with long-term sequelae from sepsis and other severe respiratory viral illnesses. Although most patients saw a primary care provider after discharge, 1 in 5 had no primary care follow-up visit within 60 days of discharge. Collectively, these findings suggest that better models to support COVID-19 survivors are necessary."

JAMA: [Reflections of a COVID-19 Long Hauler](#)

"In this narrative medicine essay, an emergency medical physician describes the lasting physical symptoms of a mild case of COVID-19, the effects of the illness on his family and professional community, and the lessons he's learned about caring for symptomatic patients with normal test results."

NEJM: [An Outbreak of Covid-19 on an Aircraft Carrier](#)

"An outbreak of coronavirus disease 2019 (Covid-19) occurred on the U.S.S. Theodore Roosevelt, a nuclear-powered aircraft carrier with a crew of 4779 personnel.

We obtained clinical and demographic data for all crew members, including results of testing by real-time reverse-transcriptase polymerase chain reaction (rRT-PCR). All crew members were followed up for a minimum of 10 weeks, regardless of test results or the absence of symptoms.

The crew was predominantly young (mean age, 27 years) and was in general good health, meeting U.S. Navy standards for sea duty. Over the course of the outbreak, 1271 crew members (26.6% of the crew) tested positive for severe acute respiratory syndrome



coronavirus 2 (SARS-CoV-2) infection by rRT-PCR testing, and more than 1000 infections were identified within 5 weeks after the first laboratory-confirmed infection. An additional 60 crew members had suspected Covid-19 (i.e., illness that met Council of State and Territorial Epidemiologists clinical criteria for Covid-19 without a positive test result). Among the crew members with laboratory-confirmed infection, 76.9% (978 of 1271) had no symptoms at the time that they tested positive and 55.0% had symptoms develop at any time during the clinical course. Among the 1331 crew members with suspected or confirmed Covid-19, 23 (1.7%) were hospitalized, 4 (0.3%) received intensive care, and 1 died. Crew members who worked in confined spaces appeared more likely to become infected.

SARS-CoV-2 spread quickly among the crew of the U.S.S. Theodore Roosevelt. Transmission was facilitated by close-quarters conditions and by asymptomatic and presymptomatic infected crew members. Nearly half of those who tested positive for the virus never had symptoms."

See also: [NEJM editorial](#)

See also: [commentary from War on the Rocks](#)

NEJM: [SARS-CoV-2 Transmission among Marine Recruits during Quarantine](#)

See also: [NEJM editorial](#)

"We investigated SARS-CoV-2 infections among U.S. Marine Corps recruits who underwent a 2-week quarantine at home followed by a second supervised 2-week quarantine at a closed college campus that involved mask wearing, social distancing, and daily temperature and symptom monitoring. Study volunteers were tested for SARS-CoV-2 by means of quantitative polymerase-chain-reaction (qPCR) assay of nares swab specimens obtained between the time of arrival and the second day of supervised quarantine and on days 7 and 14. Recruits who did not volunteer for the study underwent qPCR testing only on day 14, at the end of the quarantine period. We performed phylogenetic analysis of viral genomes obtained from infected study volunteers to identify clusters and to assess the epidemiologic features of infections.

A total of 1848 recruits volunteered to participate in the study; within 2 days after arrival on campus, 16 (0.9%) tested positive for SARS-CoV-2, 15 of whom were asymptomatic. An additional 35 participants (1.9%) tested positive on day 7 or on day 14. Five of the 51 participants (9.8%) who tested positive at any time had symptoms in the week before a positive qPCR test. Of the recruits who declined to participate in the study, 26 (1.7%) of the 1554 recruits with available qPCR results tested positive on day 14. No SARS-CoV-2 infections were identified through clinical qPCR testing performed as a result of daily symptom monitoring. Analysis of 36 SARS-CoV-2 genomes obtained from 32 participants



revealed six transmission clusters among 18 participants. Epidemiologic analysis supported multiple local transmission events, including transmission between roommates and among recruits within the same platoon.

Among Marine Corps recruits, approximately 2% who had previously had negative results for SARS-CoV-2 at the beginning of supervised quarantine, and less than 2% of recruits with unknown previous status, tested positive by day 14. Most recruits who tested positive were asymptomatic, and no infections were detected through daily symptom monitoring. Transmission clusters occurred within platoons."

*10 November 2020*

PLoS One: [How does age affect personal and social reactions to COVID-19: Results from the national Understanding America Study](#)

"The COVID-19 pandemic has had tremendous impact on Americans' lives including their personal and social behaviors. While people of all ages are affected in some way by the pandemic, older persons have been far more likely to suffer the most severe health consequences. For this reason, how people have responded to mitigating behaviors to COVID-19 may differ by age. Using a nationally representative sample from the longitudinal data of the Understanding America Study (UAS), we examined differentials in behavioral responses to COVID-19 by age and how they changed over the first three months of the pandemic. Behavioral responses and changes in behavior over time differed by age, type of behaviors and time reference. At the beginning of the pandemic (March, 2020), older and younger people were similar in their likelihood of engaging in preventive personal behaviors when controlling for other influences. As the pandemic progressed, however, older people adopted mitigating personal behavioral changes more than younger people, such that about 1–2 months after the pandemic started, older people were more likely to comply with suggested behaviors and regulations including practicing better hygiene, quarantining, and social distancing. One month into the pandemic, older people were less likely than younger people to engage in two of four risky behaviors. The change in risky behavior over time did not differ by age; but both younger and older people were more likely to engage in risky behaviors after two months. Being female, a member of a racial/ethnic minority group, higher socioeconomic status, having more COVID-19 cases in one's state of residence, a higher perceived risk for infection and dying, and a more left-leaning political orientation were related to adopting more pandemic mitigating behaviors."

09 November 2020

JAMA: [Effect of Hydroxychloroquine on Clinical Status at 14 Days in Hospitalized Patients With COVID-19: A Randomized Clinical Trial](#)

"Question: Does treatment with hydroxychloroquine improve clinical outcomes of adults hospitalized with coronavirus disease 2019 (COVID-19)?

Findings: In this randomized clinical trial that included 479 hospitalized adults with respiratory symptoms from COVID-19, the distribution of the day 14 clinical status score (measured using a 7-category ordinal scale) was not significantly different for patients randomized to receive hydroxychloroquine compared with placebo (adjusted odds ratio, 1.02).

Meaning: These findings do not support the use of hydroxychloroquine for treatment of COVID-19 among hospitalized adults."

JAMA Intern Med: [Risk of Severe COVID-19 Among Workers and Their Household Members](#)

"Between 56.7 and 74.3 million increased-risk US adults lived with or were themselves essential workers who could not WAH. These estimates were driven by 3 factors: First, 49.7% to 61.0% of all adults were at increased risk of severe COVID-19 if infected with SARS-CoV-2 (depending on the CDC definition used). Second, 71.5% of workers held essential jobs, and many were unable to WAH. Third, we measured not only the number of adults with increased risk who were essential workers and unable to WAH, but also the many increased-risk adults living with such workers. One limitation is that the study's prepandemic data do not reflect current employment levels, changes in ability to WAH, or local infection rates. Additionally, risk factors were reported by MEPS participants rather than measured by medical professionals, likely causing an underestimate of risk. Policy makers seeking to make efficient and equitable decisions about reopening the economy and about vaccine distribution should consider the health risks not only of workers, but also of those with whom they live."

Lancet Psychiatry: [Bidirectional associations between COVID-19 and psychiatric disorder: retrospective cohort studies of 62 354 COVID-19 cases in the USA](#)

"To our knowledge, this is the first dataset allowing the psychiatric sequelae and antecedents of COVID-19 to be measured reliably in terms of clinical diagnoses. The study cohorts are substantially larger than previous studies, producing more precise, representative estimates of even small but important effects, such as the incidence of dementia. The study uses propensity score matching to control for many variables, including established physical risk factors for COVID-19 and for more severe COVID-19 illness, and uses large-scale real-world data, thus providing more clinically relevant findings. We used time-to-event data for analysis of psychiatric sequelae, thus providing evidence for

their temporal evolution. Our findings show that COVID-19 survivors have significantly higher rates of psychiatric diagnoses and psychiatric history is a potential risk factor for being diagnosed with COVID-19, independent of known physical risk factors.

Prospective cohort studies and longer-term follow-up studies are urgently needed to support and extend the findings of our study. Furthermore, enhanced psychiatric follow-up should be considered for patients who survive COVID-19. Finally, psychiatric history should be queried during assessment of a patient presenting with COVID-19 symptoms to adjust pre-test probability."

*07 November 2020*

Int J Infect Dis: [High prevalence of pre-existing serological cross-reactivity against SARS-CoV-2 in sub-Saharan Africa](#)

Highlights:

- High prevalence of serological cross-reactivity against SARS-CoV-2 in pre-COVID-19 pandemic plasma samples from sub-Saharan Africa.
- Pre-COVID-19 pandemic plasma displayed strong reactivity against other human coronaviruses.
- Exposure to other coronaviruses may induce cross-reactive antibodies against SARS-CoV-2 in sub-Saharan Africa.

*06 November 2020*

JAMA Netw Open: [US Clinicians' Experiences and Perspectives on Resource Limitation and Patient Care During the COVID-19 Pandemic](#)

"Question: How have US clinicians planned for and responded to resource limitation during the coronavirus disease 2019 pandemic?

Findings: This qualitative study included interviews with 61 clinicians across the United States. While institutions planned for an explicit and systematic approach to resource allocation in crisis settings, this approach did not address many challenges encountered by frontline clinicians, leaving them to struggle with what constituted acceptable standards of care and to make difficult allocation decisions.

Meaning: The findings of this study suggest that expanding the scope of institutional planning to address a broader spectrum of resource limitation may help to support clinicians, promote equity, and optimize care during the pandemic."

Science: [Preexisting and de novo humoral immunity to SARS-CoV-2 in humans](#)

"Zoonotic introduction of novel coronaviruses may encounter preexisting immunity in humans. Using diverse assays for antibodies recognizing SARS-CoV-2 proteins, we detect preexisting humoral immunity. SARS-CoV-2 spike glycoprotein (S)-reactive antibodies were detectable by a flow cytometry-based method in SARS-CoV-2-uninfected individuals and were particularly prevalent in children and adolescents. They were predominantly of the IgG class and targeted the S2 subunit. By contrast, SARS-CoV-2 infection induced higher titers of SARS-CoV-2 S-reactive IgG antibodies, targeting both the S1 and S2 subunits, and concomitant IgM and IgA antibodies, lasting throughout the observation period. Notably, SARS-CoV-2-uninfected donor sera exhibited specific neutralizing activity against SARS-CoV-2 and SARS-CoV-2 S pseudotypes. Distinguishing preexisting and de novo immunity will be critical for our understanding of susceptibility to and the natural course of SARS-CoV-2 infection."

*05 November 2020*

Andrology: [Effects of SARS-CoV-2 Infection on Male Sex-related Hormones in Recovering Patients](#)

"To assess whether SARS-CoV-2 infection can affect sex-related hormones and testicular function in recovering patients.

The patients were separately classified according to the duration of viral shedding (long-term positive vs normal-term group, with the former cases having a duration >50 days) and disease severity (moderate vs severe group). Differences in sex-related hormone levels were compared between groups and linear regression analysis was used to compare the associations of testosterone (T) and estradiol with various clinical and laboratory factors.

A total of 39 COVID-19 patients were included in this study. The mean T level was in the normal reference range while the mean estradiol level was above the normal limit. There were no significant differences between the long-term positive and normal-term groups in T ( $p=0.964$ ), follicle-stimulating hormone (FSH;  $p=0.694$ ), luteinizing hormone (LH;  $p=0.171$ ), prolactin (PRL;  $p=0.836$ ) or T/LH ( $p=0.512$ ). However, estradiol was higher in the normal-term group than the long-term positive group ( $p<0.001$ ). Moreover, there were also no significant differences between the moderate and severe groups in sex-related hormones, duration of viral shedding, or serum biochemical or inflammation indicators. Additionally, regression analyses showed that there were no associations between the T level and the clinical and laboratory factors, while estradiol was negatively associated with the duration of viral shedding.

In males infected with SARS-CoV-2, most sex-related hormones (T, FSH and LH levels) remain within the normal reference ranges after recovery from COVID-19, and no significant associations were observed between T level and disease duration or severity. At present, there is insufficient evidence to show that SARS-CoV-2 causes hypogonadism and sterility, but the potential risk should not be ignored."

J Neurol Neurosurg Psychiatry: [Characteristics and outcomes of COVID-19-associated stroke: a UK multicentre case-control study](#)

"This case-control study included patients admitted with stroke to 13 hospitals in England and Scotland between 9th March and 5th July 2020. We collected data on 86 strokes (81 ischaemic strokes and 5 intracerebral haemorrhages) in patients with evidence of COVID-19 at the time of stroke onset (Cases). They were compared with 1384 strokes (1193 ischaemic strokes and 191 intracerebral haemorrhages) in patients admitted during the same time period who never had evidence of COVID-19 (Controls). In addition the whole group of stroke admissions, including another 37 in patients who appear to have developed COVID-19 after their stroke, were included in two logistic regression analyses examining which features were independently associated with COVID-19 status and with inpatient mortality.

Cases with ischaemic stroke were more likely than ischaemic controls to occur in Asians (18.8% vs 6.7%,  $p < 0.0002$ ), were more likely to involve multiple large vessel occlusions (17.9% vs 8.1%,  $p < 0.03$ ), were more severe (median NIHSS 8 vs 5,  $p < 0.002$ ), were associated with higher D-dimer levels ( $p < 0.01$ ) and were associated with more severe disability on discharge (median mRS 4 vs 3,  $p < 0.0001$ ) and inpatient death (19.8% vs 9.6%,  $p < 0.0001$ ). Recurrence of stroke during the patient's admission was rare in Cases and Controls (2.3% vs 1.0%, NS).

Our data suggest that COVID-19 may be an important modifier of the onset, characteristics and outcome of acute ischaemic stroke."

JAMA Otolaryngol Head Neck Surg: [Disparities in the Uptake of Telemedicine During the COVID-19 Surge in a Multidisciplinary Head and Neck Cancer Population by Patient Demographic Characteristics and Socioeconomic Status](#)

"This study demonstrates that telemedicine can be used for a diverse population to provide multidisciplinary oncologic care when in-person care cannot be safely delivered. No demographic, insurance, or socioeconomic differences were observed between patients seen during the COVID-19 pandemic and those in the previous year. Uninsured patients, patients with Medicaid, and patients with lower median household incomes had less odds of completing a virtual care visit. However, this disparity was not demonstrated in telephone visits. While synchronous audio and visual communication in virtual visits offer a more comprehensive assessment, telephone visits may be an important avenue to access

care, supporting the expansion of covered visit types by the Centers of Medicare & Medicaid Services."

Nature Immunol: [Distinct antibody responses to SARS-CoV-2 in children and adults across the COVID-19 clinical spectrum](#)

"Clinical manifestations of COVID-19 caused by the new coronavirus SARS-CoV-2 are associated with age. Adults develop respiratory symptoms, which can progress to acute respiratory distress syndrome (ARDS) in the most severe form, while children are largely spared from respiratory illness but can develop a life-threatening multisystem inflammatory syndrome (MIS-C). Here, we show distinct antibody responses in children and adults after SARS-CoV-2 infection. Adult COVID-19 cohorts had anti-spike (S) IgG, IgM and IgA antibodies, as well as anti-nucleocapsid (N) IgG antibody, while children with and without MIS-C had reduced breadth of anti-SARS-CoV-2-specific antibodies, predominantly generating IgG antibodies specific for the S protein but not the N protein. Moreover, children with and without MIS-C had reduced neutralizing activity as compared to both adult COVID-19 cohorts, indicating a reduced protective serological response. These results suggest a distinct infection course and immune response in children independent of whether they develop MIS-C, with implications for developing age-targeted strategies for testing and protecting the population."

Sci Adv: [Differential effects of intervention timing on COVID-19 spread in the United States](#)

"Assessing the effects of early non-pharmaceutical interventions on COVID-19 spread is crucial for understanding and planning future control measures to combat the pandemic. We use observations of reported infections and deaths, human mobility data, and a metapopulation transmission model to quantify changes in disease transmission rates in US counties from March 15 to May 3, 2020. We find that marked, asynchronous reductions of the basic reproductive number occurred throughout the US in association with social distancing and other control measures. Counterfactual simulations indicate that, had these same measures been implemented 1-2 weeks earlier, substantial cases and deaths could have been averted, and that delayed responses to future increased incidence will facilitate a stronger rebound of infections and death. Our findings underscore the importance of early intervention and aggressive control in combatting the COVID-19 pandemic."

*04 November 2020*

BMC Med: [At what times during infection is SARS-CoV-2 detectable and no longer detectable using RT-PCR-based tests? A systematic review of individual participant data](#)

"We conducted an individual participant data (IPD) systematic review of longitudinal studies of RT-PCR test results in symptomatic SARS-CoV-2. We searched PubMed, LitCOVID,

medRxiv, and COVID-19 Living Evidence databases. We assessed risk of bias using a QUADAS-2 adaptation. Outcomes were the percentage of positive test results by time and the duration of detectable virus, by anatomical sampling sites.

Of 5078 studies screened, we included 32 studies with 1023 SARS-CoV-2 infected participants and 1619 test results, from – 6 to 66 days post-symptom onset and hospitalisation. The highest percentage virus detection was from nasopharyngeal sampling between 0 and 4 days post-symptom onset at 89% (95% confidence interval (CI) 83 to 93) dropping to 54% (95% CI 47 to 61) after 10 to 14 days. On average, duration of detectable virus was longer with lower respiratory tract (LRT) sampling than upper respiratory tract (URT). Duration of faecal and respiratory tract virus detection varied greatly within individual participants. In some participants, virus was still detectable at 46 days post-symptom onset.

RT-PCR misses detection of people with SARS-CoV-2 infection; early sampling minimises false negative diagnoses. Beyond 10 days post-symptom onset, lower RT or faecal testing may be preferred sampling sites. The included studies are open to substantial risk of bias, so the positivity rates are probably overestimated."

*03 November 2020*

Int J Dermatol: [Dermatologic manifestations of COVID-19: a comprehensive systematic review](#)

"Recent reports have suggested that there may be dermatologic manifestations of COVID-19. We searched 12 databases for peer-reviewed or pre-print published studies until July 15, 2020, for this PRISMA-compliant review (CRD42020182050). We used the Oxford Center for Evidence-Based Medicine Levels of Evidence to facilitate data synthesis. From 86 retrieved studies, we collated data on 2,560 patients with dermatologic manifestations of COVID-19. The most common findings were chilblains/pernio-like lesion (51.5%), erythematous maculopapular rashes (13.3%), and viral exanthem (7.7%). Average pediatric age was 12.9 years (SD 3.6) and adult was 34.2 years (SD 21.8). Average latency from time of upper respiratory illness symptoms to cutaneous findings was 1.5 days (SD 2.9) in children and 7.9 days (SD 10.7) in adults, ranging from –3 to 38 days. Roughly one-tenth in both populations were otherwise asymptomatic or presented with only skin findings for the entirety of the disease course; 13.3% (pediatrics) and 5.3% (adults) presented with skin issues first. Dermatologic findings may play an important role in identifying cases early and serve as an important proxy to manage spread. Further prospective data collection with international prospective registries is needed."



Ophthalmology: [What is the significance of the conjunctiva as a potential transmission route for SARS-CoV-2 infections?](#)

"Recent studies have described conjunctivitis in approximately 1% of COVID-19 patients and speculated that SARS-CoV-2 can be transmitted via the conjunctiva. In this article we recapitulate the molecular mechanisms of host cell entry of SARS-CoV-2 and discuss the current evidence for a potential conjunctival transmission of SARS-CoV-2. The current body of evidence indicates that SARS-CoV-2 requires the membrane-bound angiotensin-converting enzyme 2 (ACE2) and the membrane-bound serine protease TMPRSS2 to enter cells. Recent studies suggest that COVID-19 patients rarely exhibit viral RNA in tear film and conjunctival smears and that, ACE2 and TMPRSS2 are only expressed in small amounts in the conjunctiva, making conjunctival infection with SARS-CoV-2 via these mediators unlikely. Nevertheless, we consider the current evidence to be still too limited to provide a conclusive statement and recommend appropriate protective measures for healthcare personnel who are in close contact with suspected and confirmed COVID-19 patients."

02 November 2020

Eur Heart J Cardiovasc Pharmacother: [Effect of statin therapy on SARS-CoV-2 infection-related mortality in hospitalized patients](#)

"Retrospective observational study. Patients taking statins were 11 years older and had significantly more comorbidities than patients who were not taking statins. A genetic matching (GM) procedure was performed prior to analysis of the mortality risk. A Cox proportional hazards model was used for the cause-specific hazard (CSH) function, and a competing-risks Fine and Gray (FG) model was also used to study the direct effects of statins on risk.

Data from reverse transcription-polymerase chain reaction-confirmed 2157 SARS-CoV-2-infected patients (1234 men, 923 women; age: 67 y/o (IQR 54-78)) admitted to the hospital were retrieved from the clinical records in an anonymized manner. 353 deaths occurred. 581 patients were taking statins. Univariate test after GM showed a significantly lower mortality rate in patients on statin therapy than the matched non-statin group (19.8% vs. 25.4%,  $\chi^2$  with Yates continuity correction:  $p = 0.027$ ). The mortality rate was even lower in patients ( $n = 336$ ) who maintained their statin treatments during hospitalization compared to the GM non-statin group (17.4%;  $p = 0.045$ ). The Cox model applied to the CSH function ( $HR = 0.58$ (CI: 0.39-0.89);  $p = 0.01$ ) and the competing risks FG model ( $HR = 0.60$ (CI: 0.39-0.92);  $p = 0.02$ ) suggest that statins are associated with reduced COVID-19-related mortality.

A lower SARS-CoV-2 infection-related mortality was observed in patients treated with statin therapy prior to hospitalization. Statin therapy should not be discontinued due to the global concern of the pandemic or in patients hospitalized for COVID-19."

Intern Med: [Clinical and Microbiological Features of Asymptomatic SARS-CoV-2 Infection and Mild COVID-19 in Seven Crewmembers of a Cruise Ship](#)

"To describe the clinical features and clinical course of individuals diagnosed with asymptomatic SARS-CoV-2 infection or mild COVID-19.

The study participants consisted of 7 crewmembers of the passenger cruise-liner, Diamond Princess, who were admitted to our hospital after becoming infected with SARS-CoV-2 aboard the ship.

The data on patient background and biochemical test results were obtained from the patients' medical records. All patients had a chest X-ray, and a throat swab and sputum samples were sent for culture on admission.

The median age of the 7 patients, of whom 4 were male and 3 were female, was 39 years (range: 23-47 years). On admission, none of them had fever, but 4 (57%) had a cough. None of them showed any signs of organ damage on laboratory testing. Chest X-ray showed pneumonia in one individual, which resolved spontaneously, while the other 6 had normal chest X-ray findings. Culture of throat swabs and sputum samples revealed that 4 patients (57%) had bacterial upper respiratory infections (*Haemophilus influenzae*, *Klebsiella pneumoniae*, and *Staphylococcus aureus*). The period from a positive PCR test to negative conversion ranged from 5 to 13 days, with a median of 8 days.

Healthy young adults without risk factors who acquire SARS-CoV-2 infection may have an asymptomatic infection or may experience mild COVID-19. In addition to obesity, an older age, underlying illness, and being overweight can lead to a risk of exacerbation; thus, hospital management for such individuals may be desirable. Culturing respiratory samples may be useful for diagnosing secondary bacterial pneumonia."

Neuroscientist: [Why Severe COVID-19 Patients Are at Greater Risk of Developing Depression: A Molecular Perspective](#)

"The prevailing evidence suggests that patients with severe COVID-19 seem to have an overreaction of the immune system demonstrating exacerbated levels of inflammation caused by a "cytokine storm." At this early stage, the mechanisms underpinning COVID-19 are still subject to intense scrutiny and the long-term mental health consequences as a result of the disease are unknown. Here we discuss the hypothesis that patients who survive severe COVID-19 and who experience significant activation of the immune system, are at greater risk of developing depression. We posit that a phenomenon known as cytokine storm dramatically activates the enzyme indoleamine 2,3-dioxygenase (IDO-1),

resulting in the increase in kynurenine metabolites. Kynurenine is metabolized by IDO-1 in the brain, producing chemokines, in which a prolonged exposure may result long-term brain impairment. In this article, we also propose the possibility that a SARS-CoV-2 neuroinvasion increases the local levels of angiotensin II by angiotensin-converting enzyme 2 down-regulation. Thereby, angiotensin II could increase kynurenine metabolites producing pro-oxidative and pro-inflammatory effects, resulting in impairment of cognitive function, enhanced oxidative stress and decreased brain-derived neurotrophic factor. It is our premise that patients who experience such a cytokine storm may be at increased risk of long-term mental illness, such as depression."

*ICYMI (older than last 2 weeks)*

Rev Med Virol: [Airborne transmission of SARS-CoV-2 via aerosols](#) (published 26 October 2020)

"A key consideration in the Covid-19 pandemic is the dominant modes of transmission of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) virus. The objective of this review was to synthesise the evidence for the potential airborne transmission of SARS-CoV-2 via aerosols. Systematic literature searches were conducted in PubMed, Embase, Europe PMC and National Health Service UK evidence up to 27 July 2020. A protocol was published and Cochrane guidance for rapid review methodology was adhered to throughout.

Twenty-eight studies were identified. Seven out of eight epidemiological studies suggest aerosol transmission may occur, with enclosed environments and poor ventilation noted as possible contextual factors. Ten of the 16 air sampling studies detected SARS-CoV-2 ribonucleic acid; however, only three of these studies attempted to culture the virus with one being successful in a limited number of samples. Two of four virological studies using artificially generated aerosols indicated that SARS-CoV-2 is viable in aerosols.

The results of this review indicate there is inconclusive evidence regarding the viability and infectivity of SARS-CoV-2 in aerosols. Epidemiological studies suggest possible transmission, with contextual factors noted. Viral particles have been detected in air sampling studies with some evidence of clinical infectivity, and virological studies indicate these particles may represent live virus, adding further plausibility. However, there is uncertainty as to the nature and impact of aerosol transmission of SARS-CoV-2, and its relative contribution to the Covid-19 pandemic compared with other modes of transmission."

## Selected Literature: Preprints

*Preprints are found on preprint servers such as [arXiv](#), [bioRxiv](#), and [medRxiv](#); they are commonly used for biomedical research. Preprints may later be published in peer-reviewed journals.*

*Per medRxiv: "Preprints are preliminary reports of work that have not been certified by peer review. They should not be relied on to guide clinical practice or health-related behavior and should not be reported in news media as established information."*

medRxiv: [Asymptomatic Employee Screening for SARS-CoV-2: Implementation of and Reactions to an Employer-Based Testing Program](#) (posted 10 November 2020)

"Asymptomatic testing for SARS-CoV-2 among healthcare workers or other essential personnel could remove infected carriers from the workforce, decreasing chances for transmission and workplace outbreaks. Results from one-time testing programs have been reported but data regarding longitudinal testing, including information about employee's reactions to such programs, is not readily available.

To identify asymptomatic carriers of SARS-CoV-2, we implemented a longitudinal screening program for critical on-site employees within our research institute in early April 2020. We conducted a survey of both on-site employees and those working from home in order to measure their reactions to the testing program. Statistical analysis of the survey was conducted with general linear regression and Pearson's Chi-Square tests.

Despite an ongoing high community prevalence rate of COVID-19, to date only two asymptomatic employees tested positive out of 1050 tests run during 7 months of the program. However, 12 symptomatic employees not participating in the program have tested positive. The employee survey was completed by 132/306 (43%) employees, with 93% agreeing that asymptomatic employee screening led to a better and safer working environment and 75% agreeing with on-site public health measures to help contain the virus, but only 58% feeling COVID-19 was a serious threat to their health.

Our results suggest that a longitudinal asymptomatic employee screening program for SARS-CoV-2 can be accepted by employees and can be used to maintain the health of the workforce, potentially keeping positivity rates below community levels in the face of the ongoing COVID-19 pandemic."

medRxiv: [Socio-economic disparities in social distancing during the COVID-19 pandemic in the United States](#) (09 November 2020)

"Eliminating disparities in the burden of COVID-19 requires equitable access to control measures across socio-economic groups. Limited research on socio-economic differences in

mobility hampers our ability to understand whether inequalities in social distancing are occurring during the SARS-CoV-2 pandemic.

To assess how mobility patterns have varied across the United States during the COVID-19 pandemic, and identify associations with socio-economic factors of populations.

We used anonymized mobility data from tens of millions of devices to measure the speed and depth of social distancing at the county level between February and May 2020. Using linear mixed models, we assessed the associations between social distancing and socio-economic variables, including the proportion of people below the poverty level, the proportion of Black people, the proportion of essential workers, and the population density.

We find that the speed, depth, and duration of social distancing in the United States is heterogeneous. We particularly show that social distancing is slower and less intense in counties with higher proportions of people below the poverty level and essential workers; and in contrast, that social distancing is intense in counties with higher population densities and larger Black populations.

Socio-economic inequalities appear to be associated with the levels of adoption of social distancing, potentially resulting in wide-ranging differences in the impact of COVID-19 in communities across the United States. This is likely to amplify existing health disparities, and needs to be addressed to ensure the success of ongoing pandemic mitigation efforts."

bioRxiv: [Intranasal fusion inhibitory lipopeptide prevents direct contact SARS-CoV-2 transmission in ferrets](#) (posted 05 November 2020)

"Containment of the COVID-19 pandemic requires reducing viral transmission. SARS-CoV-2 infection is initiated by membrane fusion between the viral and host cell membranes, mediated by the viral spike protein. We have designed a dimeric lipopeptide fusion inhibitor that blocks this critical first step of infection for emerging coronaviruses and document that it completely prevents SARS-CoV-2 infection in ferrets. Daily intranasal administration to ferrets completely prevented SARS-CoV-2 direct-contact transmission during 24-hour co-housing with infected animals, under stringent conditions that resulted in infection of 100% of untreated animals. These lipopeptides are highly stable and non-toxic and thus readily translate into a safe and effective intranasal prophylactic approach to reduce transmission of SARS-CoV-2."

medRxiv: [A Machine Learning Study of 534,023 Medicare Beneficiaries with COVID-19: Implications for Personalized Risk Prediction](#) (posted 30 October 2020)

"Medicare claims data was used to identify patients age 65 years or older with diagnosis of COVID-19 between April 1, 2020 and August 31, 2020. Demographic characteristics, chronic medical conditions, and other patient risk factors that existed before the advent of COVID-19 were identified. A random forest model was used to empirically explore factors

associated with COVID-19 death. The independent impact of factors identified were quantified using multivariate logistic regression with random effects.

We identified 534,023 COVID-19 patients of whom 38,066 had an inpatient death. Demographic characteristics associated with COVID-19 death included advanced age (85 years or older: aOR: 2.07; 95% CI, 1.99-2.16), male sex (aOR, 1.88; 95% CI, 1.82-1.94), and non-white race (Hispanic: aOR, 1.74; 95% CI, 1.66-1.83). Leading comorbidities associated with COVID-19 mortality included sickle cell disease (aOR, 1.73; 95% CI, 1.21-2.47), chronic kidney disease (aOR, 1.32; 95% CI, 1.29-1.36), leukemias and lymphomas (aOR, 1.22; 95% CI, 1.14-1.30), heart failure (aOR, 1.19; 95% CI, 1.16-1.22), and diabetes (aOR, 1.18; 95% CI, 1.15-1.22).

We created a personalized risk prediction calculator to identify candidates for early vaccine and therapeutics allocation ([www.predictcovidrisk.com](http://www.predictcovidrisk.com)). These findings may be used to protect those at greatest risk of death from COVID-19."

## Podcast

No time to read reports like this? The COVID-19 Literature Surveillance Team Reports now have a daily podcast to help you keep up with things, all under 10 minutes.

See <https://www.covid19lst.org/podcast/> for more.

## News in Brief

The US has pass 10 million cases of coronavirus ([Reuters](#)).

Texas was the first state to hit 1 million cases ([Reuters](#)); California became the second state to hit 1 million ([LAT](#)).

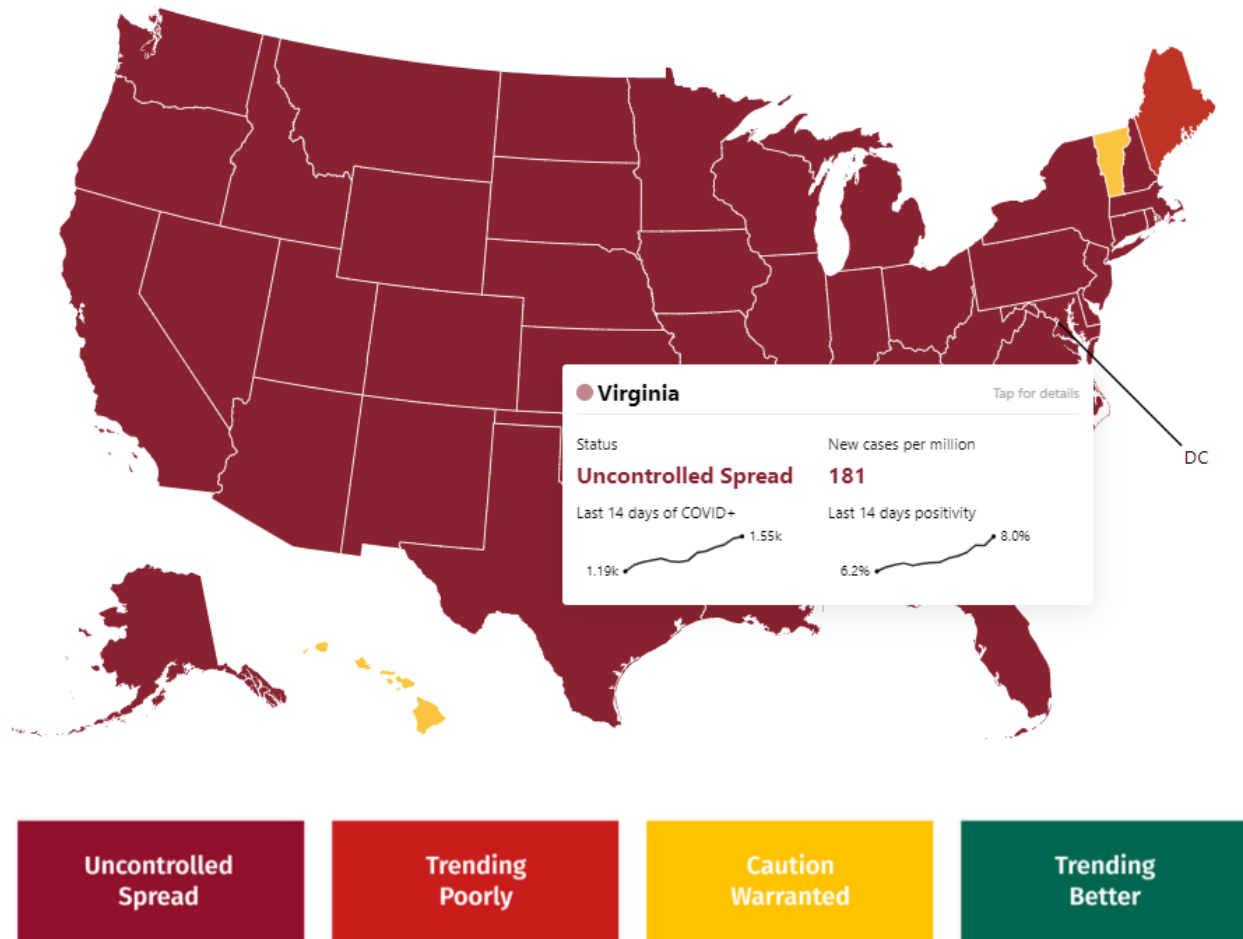
Whether you call it a spike, surge, or a wave, experts and modelers think it may already be too late to avert the rise of coronavirus cases and deaths ([STAT](#)).

As cases soar around the country, hospitals face tough decisions on who to treat and who to send home ([WaPo](#)).

Long read: "Why do COVID death rates seem to be falling?" ([Nature](#))

We've seen "the worst day of the pandemic since May" ([Atlantic](#)).

The map is grim: as of Friday, 13 November 2020, only 3 states are doing better than uncontrolled spread – Hawaii and Vermont have caution warranted, and Maine is trending poorly ([COVID Exit Strategy](#)).



### Vaccines

The really big news: On Monday, 09 November 2020, Pfizer and BioNTech reported that their COVID-19 vaccine is 90% effective in people who got 2 doses three weeks apart compared to placebo ([STAT](#); read the [press release from Pfizer](#)). The EUA submission could happen later this month ([Endpoints](#)).

"Here's everything you need to know about Pfizer's positive vaccine news" ([Ars Technica](#)).



Meanwhile, for those of us who are mostly teleworking, the Pfizer vaccine news is causing some mixed feelings that can be best summed up by this meme: ---->

Volunteers from Pfizer's vaccine trials liken the side effects to having a 'severe hangover' ([NYP](#)). (Something not addressed in the meme, but it's implied, right? That cat is *not* happy.)

Later the same day as the Pfizer announcement, a representative from Russia's health ministry said the Sputnik V vaccine is more than 90% effective ([Reuters](#)) – 92%, to be specific ([Reuters](#)).



"China is inoculating thousands with unapproved COVID-19 vaccines. Why?" ([NPR](#))

Moderna said it has enough data for an interim analysis and should have some idea about efficacy soon ([Reuters](#)).

Long read: "The story of mRNA: How a once-dismissed idea became a leading technology in the Covid vaccine race" ([STAT](#)).

#### *After A Vaccine is Approved*

Advisors to the CDC say healthcare workers should get the first doses of any approved COVID-19 vaccine ([NPR](#)).

A company in India holds the key of how a coronavirus vaccine will be produced for the world ([WaPo](#)).

As if developing and producing an effective vaccine wasn't enough, distribution is going to be complicated at best – rural hospitals may be left out because lack of ultra-cold storage ([STAT](#)).

Any kind of cold transport is challenging because of equipment and materials needed; see this Twitter for some discussion about dry ice involved in distribution, for example ([Twitter](#)).

Long read: "Most states aren't ready to distribute the leading COVID-19 vaccine" ([ProPublica](#))

### *Exposure, Testing, and Risks*

Casual, everyday life – not to mention dinner parties and game nights – may be a major factor in the surge of coronavirus cases ([WaPo](#)).

Case in point: Upstate University Hospital in New York has quarantined 36 medical residents after they were exposed at a Halloween party ([Syracuse](#)).

A CDC report shows that officials released coronavirus tests known to be flawed ([NPR](#)).

The VA may be using faulty temperature screening devices and missing signs of coronavirus infections, according to a new report ([Military Times](#)).

"People with intellectual disabilities and developmental disorders are three times more likely to die of COVID-19, compared with patients without the conditions, a new analysis found" ([NYT](#)).

### *Treatments and Therapies*

The FDA has issued an EUA for Eli Lilly's monoclonal antibody, bamlanivimab, for treatment of mild-to-moderate COVID-19 in adult and pediatric patients ([FDA](#)).

AstraZeneca reported that its selective inhibitor of BTK, acalabrutinib, did not meet the primary efficacy endpoint in phase 2 trials for COVID-19 ([AstraZeneca](#)).

RECOVERY is adding aspirin in its investigation of treatments for COVID-19 ([RECOVERY](#)).

### *Thanks, Coronavirus: Holiday Edition*

"Big turkeys could be rare birds at Thanksgiving dinner this year" ([Orlando Sentinel](#)).

Mardi Gras 2021 is not cancelled (yet?) but it will be different ([WWL](#)).

COVID-19 may warp your sense of smell. Something to be aware of if your Thanksgiving dinner seems... off, and you can't blame it on your cooking skills ([WaPo](#)).

### *Other Outbreaks and Health Threats*

Romaine lettuce appears to be the source of an outbreak of *E. coli* in 6 states ([CDC](#)).

Worldwide measles deaths increased over the last few years, and the pandemic is only going to make it worse ([Vox](#)).

Laos reports the first case H5N1 in a human in 18 months ([AFD](#)).

Wild chimpanzees are getting leprosy ([Science](#); read the [preprint on bioRxiv](#)).

### *And Now for Something Completely Different*

It's Friday the 13th! Do you suffer from friggatriskaidekaphobia? ([NYHS](#); [Wikipedia](#))

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